

Application Number 09/778,484
Response to Office Action mailed April 20, 2005

CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application. However, no amendments have been made to the claims.

Listing of Claims:

Claim 1 (Previously Presented): A method comprising:
displaying a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value and a non-rectangular shape; and
estimating a blackpoint for a display device based on one of the dark elements selected by the user that is visible and appears to most closely match the background.

Claim 2 (Original): The method of claim 1, further comprising:
modifying a color image for the display device based on the estimated blackpoint.

Claim 3 (Original): The method of claim 2, further comprising delivering the modified color image via a computer network for display on the display device.

Claim 4 (Original): The method of claim 2, wherein the display device is associated with a client on the computer network, the method further comprising:
transmitting information representative of the estimated blackpoint from the client to a server on the computer network;
modifying the color image via the server based on the information; and
delivering the modified color image from the server to the client for display on the display device.

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Claim 5 (Original): The method of claim 4, further comprising:

- storing the information in a web cookie;
- transmitting the web cookie from the client to the server; and
- modifying the color image via the server based on the contents of the web cookie.

Claim 6 (Original): The method of claim 2, further comprising:

- generating a color profile based on the estimated blackpoint; and
- modifying the color image based on the color profile.

Claim 7 (Original): The method of claim 6, wherein the display device is associated with a client on the computer network, the method further comprising:

- transmitting the color profile from the client to a server on the computer network;
- modifying the color image via the server based on the color profile; and
- delivering the modified color image from the server to the client for display on the display device.

Claim 8 (Original): The method of claim 7, further comprising:

- storing the color profile in a web cookie;
- transmitting the web cookie from the client to the server; and
- modifying the color image via the server based on the contents of the web cookie.

Claim 9 (Original): The method of claim 1, further comprising:

- displaying dark elements against the black background for each of the color channels of the display device;
- selecting one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and
- estimating channel-specific blackpoints for the color channels of the display device based on the selected dark elements.

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Claim 10 (Original): The method of claim 9, wherein the color channels are red, green, and blue color channels.

Claim 11 (Original): The method of claim 1, wherein the display device is a cathode ray tube monitor or a flat panel display.

Claim 12 (Original): The method of claim 1, wherein the non-rectangular shapes include a numeral or a letter.

Claim 13 (Original): The method of claim 1, further comprising:
 estimating a gamma and gray balance for the display device;
 generating a color profile for the display device based on the estimated blackpoints, the gamma, and the gray balance; and
 modifying the color image for the display device using the color profile.

Claim 14 (Original): The method of claim 1, further comprising guiding the client through the process of obtaining the estimated blackpoints, gamma, and gray balance by delivering a series of instructional web pages to the client.

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Claim 15 (Previously Presented): A system comprising:

a web server residing on a computer network, the web server transmitting web pages to remote clients residing on the computer network; and

a color image server residing on the computer network, the color image server transmitting color images referenced by the web pages to the clients for display on display devices associated with the clients;

a color profile server residing on the computer network, the color profile server guiding the clients through a color profiling process to obtain information characterizing the color responses of the display devices associated with the clients, wherein the information includes a blackpoint estimate for the color channels of the display devices, and the color profiling process includes:

displaying dark elements against a black background, wherein each of the dark elements has a different gray value and a non-rectangular shape,

selecting one of the dark elements that is visible and appears to most closely match the black background, and

estimating the blackpoint for a display device based on the selected dark element;

and

one or more color correction modules that modify the color images transmitted by the color image server based on the information to improve the accuracy of the color images when displayed on the respective display device.

Claim 16 (Original): The system of claim 15, wherein the color image server stores the information to the client in a web cookie, the client transmits the web cookie from the client to the server, and the color image server modifies the color image via the server based on the contents of the web cookie.

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Claim 17 (Original): The system of claim 15, wherein the color profiling process includes:
displaying dark elements against the black background for each of the color channels of the display device;
selecting one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and
estimating channel-specific blackpoints for the color channels of the display device based on the selected dark elements.

Claim 18 (Original): The system of claim 17, wherein the color channels are red, green, and blue color channels.

Claim 19 (Original): The system of claim 15, wherein the display device is a cathode ray tube monitor or a flat panel display.

Claim 20 (Original): The system of claim 15, wherein the non-rectangular shapes include a numeral or a letter.

Claim 21 (Original): The system of claim 15, wherein the color profiling process includes estimating a gamma and gray balance for the display device, and adding the gamma and gray balance to the information.

Claim 22 (Original): The system of claim 21, wherein the color profiling process includes guiding the client through the process of obtaining the estimated blackpoint, gamma, and gray balance by delivering a series of instructional web pages to the client.

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Claim 23 (Previously Presented): A computer readable medium containing program code that upon execution by a processor:

displays dark elements against a black background, wherein each of the dark elements has a different gray value and a non-rectangular shape; and

estimates a blackpoint for a display device based on one of the dark elements selected by the user that is visible and appears to most closely match the background.

Claim 24 (Previously Presented): The computer readable medium of claim 23, wherein the code is configured to modify a color image for the display device based on the estimated blackpoint.

Claim 25 (Previously Presented): The computer readable medium of claim 24, wherein the code is configured to deliver the modified color image via a computer network for display on the display device.

Claim 26 (Previously Presented): The computer readable medium of claim 24, wherein the display device is associated with a client on the computer network, and the code is configured to:

- transmit information representative of the estimated blackpoint from the client to a server on the computer network;
- modify the color image via the server based on the information; and
- deliver the modified color image from the server to the client for display on the display device.

Claim 27 (Previously Presented): The computer readable medium of claim 26, wherein the code is configured to:

- store the information in a web cookie;
- transmit the web cookie from the client to the server; and
- modify the color image via the server based on the contents of the web cookie.

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Claim 28 (Previously Presented): The computer readable medium of claim 23, wherein the code is configured to:

- generate a color profile based on the estimated blackpoint; and
- modify the color image based on the color profile.

Claim 29 (Previously Presented): The computer readable medium of claim 28, wherein the display device is associated with a client on the computer network, and the code is configured to:

- transmit the color profile from the client to a server on the computer network;
- modify the color image via the server based on the color profile; and
- deliver the modified color image from the server to the client for display on the display device.

Claim 30 (Previously Presented): The computer readable medium of claim 29, wherein the code is configured to:

- store the color profile in a web cookie;
- transmit the web cookie from the client to the server; and
- modify the color image via the server based on the contents of the web cookie.

Claim 31 (Previously Presented): The computer readable medium of claim 23, wherein the code is configured to:

- display dark elements against the black background for each of the color channels of the display device;
- select one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and
- estimate channel-specific blackpoints for the color channels of the display device based on the selected dark elements.

Claim 32 (Previously Presented): The computer readable medium of claim 31, wherein the color channels are red, green, and blue color channels.

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Claim 33 (Previously Presented): The computer readable medium of claim 23, wherein the display device is a cathode ray tube monitor or a flat panel display.

Claim 34 (Previously Presented): The computer readable medium of claim 23, wherein the non-rectangular shapes include a numeral or a letter.

Claim 35 (Previously Presented): The computer readable medium of claim 23, wherein the code is configured to:

- estimate a gamma and gray balance for the display device;
- generate a color profile for the display device based on the estimated blackpoints, the gamma, and the gray balance; and
- modify the color image for the display device using the color profile.

Claim 36 (Previously Presented): The computer readable medium of claim 24, wherein the code is configured to guide the client through the process of obtaining the estimated blackpoints, gamma, and gray balance by delivering a series of instructional web pages to the client.

Claim 37 (Previously Presented): The method of claim 1, further comprising:

- simultaneously displaying the sequence of dark elements against the black background,
- and
- estimating the blackpoint for the display device based on one of the simultaneously displayed dark elements selected by the user that is visible and appears to most closely match the background.

Claim 38 (Previously Presented): The system of claim 15, wherein the color profiling process includes simultaneously displaying dark elements against the black background, and selecting one of the simultaneously displayed dark elements that is visible and appears to most closely match the black background.

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Claim 39 (Previously Presented): The computer-readable medium of claim 23, further containing program code that upon execution by the processor:

simultaneously displays dark elements against the black background, and estimates a blackpoint for a display device based on one of the simultaneously displayed dark elements selected by the user that is visible and appears to most closely match the background.

Claim 40 (Previously Presented): The method of claim 1, wherein the non-rectangular shape comprises a complex shape including a boundary that is longer than a boundary of a simple shape to promote an increased perimeter for contrast.

Claim 41 (Previously Presented): The system of claim 15, wherein the non-rectangular shape comprises a complex shape including a boundary that is longer than a boundary of a simple shape to promote an increased perimeter for contrast.

Claim 42 (Previously Presented): The computer-readable medium of claim 23, wherein the non-rectangular shape comprises a complex shape including a boundary that is longer than a boundary of a simple shape to promote an increased perimeter for contrast.

Claim 43 (Previously Presented): A method comprising:

simultaneously displaying a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value and a complex shape including a boundary that is longer than a boundary of a simple shape to promote an increased perimeter for contrast; and

estimating a blackpoint for a display device based on one of the simultaneously displayed dark elements selected by the user that is visible and appears to most closely match the background.